SEQUENCE LISTING

<110> ADVANCED RESEARCH AND TECHNOLOGY INSTITUTE, INC.
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<120> METHODS AND COMPOSITIONS FOR PROMOTING ORAL HEALTH, AND POLYPEPTIDES USEFUL FOR SAME

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<151> 2000-05-03

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<170> PatentIn version 3.3

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Met Asn Gln Lys Ile Val
1 5

gtc att tcg tca ttt tac atg tta ggt gct cat tca ttt tca aag gca 161
Val Ile Ser Ser Phe Tyr Met Leu Gly Ala His Ser Phe Ser Lys Ala
10 15 20

gta tat cat aat gat agg agt gtg aaa ctt atg aaa aga att gat att 209
Val Tyr His Asn Asp Arg Ser Val Lys Leu Met Lys Arg Ile Asp Ile
25 30 35

aat cat caa gca caa cgt ttt tct att cgt aaa tat gca ttt gga gct 257
Asn His Gln Ala Gln Arg Phe Ser Ile Arg Lys Tyr Ala Phe Gly Ala
40 45 50

gca tct gtt tta att ggc tgt gtc ttt ttt cta ggt acc caa aat gtt 305
Ala Ser Val Leu Ile Gly Cys Val Phe Phe Leu Gly Thr Gln Asn Val
55 60 65 70

tct gca caa gag cag gga act caa ttg cca gca agt gaa aac gca gtt 353
Ser Ala Gln Glu Gln Gly Thr Gln Leu Pro Ala Ser Glu Asn Ala Val
75 80 85

gtg aac gtg gct gaa aat tca gtt gct atc agc caa gca gtt gca gat 401
Val Asn Val Ala Glu Asn Ser Val Ala Ile Ser Gln Ala Val Ala Asp
90 95 100

aag gca gca act caa aca act cta aca gaa aca ccc caa gtt gaa gtt 449
Lys Ala Ala Thr Gln Thr Thr Leu Thr Glu Thr Pro Gln Val Glu Val
105 110 115

gag gag aaa gaa agt aag gta aat gct cct gct tta aat gtc gat gac 497
Glu Glu Lys Glu Ser Lys Val Asn Ala Pro Ala Leu Asn Val Asp Asp
120 125 130

aaa ggt gca aaa tcc aaa gaa gat gtg aac cct act att tca aag aca 545
Lys Gly Ala Lys Ser Lys Glu Asp Val Asn Pro Thr Ile Ser Lys Thr
135 140 145 150

gca agt gaa gtg gaa gct tct gca gta act gct act gat act aaa aat 593
Ala Ser Glu Val Glu Ala Ser Ala Val Thr Ala Thr Asp Thr Lys Asn
155 160 165

tca aat cca caa gtc aat gtt gaa act gac tca agt gaa aaa gac gaa 641
Ser Asn Pro Gln Val Asn Val Glu Thr Asp Ser Ser Glu Lys Asp Glu
170 175 180

aat aaa atg gtc acc tcg gct cca gct aag gag act gag gca gaa caa 689
Asn Lys Met Val Thr Ser Ala Pro Ala Lys Glu Thr Glu Ala Glu Gln
185 190 195

aat gag aaa gcg gtc aga gaa aat ctt atg caa aga caa gct aag gct 737
Asn Glu Lys Ala Val Arg Glu Asn Leu Met Gln Arg Gln Ala Lys Ala
200 205 210

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Val Ser Ile Pro Ser Gln Gly Asn Tyr Val Phe Gln Glu Thr Thr Pro
215 220 225 230

gta aaa aat gca gcc agt atg tcc agc cca acc caa ttt aac ttt gat 833
Val Lys Asn Ala Ala Ser Met Ser Ser Pro Thr Gln Phe Asn Phe Asp
235 240 245

aaa gga gat aag gtt ttt tat gat aat gtt tta gaa gcg gat ggg cat 881
Lys Gly Asp Lys Val Phe Tyr Asp Asn Val Leu Glu Ala Asp Gly His
250 255 260

caa tgg att agc tat gtg tct tac agt ggt att cgt cgc tat gct cct 929
Gln Trp Ile Ser Tyr Val Ser Tyr Ser Gly Ile Arg Arg Tyr Ala Pro
265 270 275

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att gct gtg aca att gaa gaa ttg aag caa aaa gaa att gtt cag caa      977
Ile Ala Val Thr Ile Glu Glu Leu Lys Gln Lys Glu Ile Val Gln Gln
    280                 285                 290

aat tta ccg gca caa gga acc tat cac ttt act aaa cag cag agc tta     1025
Asn Leu Pro Ala Gln Gly Thr Tyr His Phe Thr Lys Gln Gln Ser Leu
295                 300                 305                 310

aaa atg aag cta aac tgt cta gtc cga ccc aat tct cgt ttt aca acg     1073
Lys Met Lys Leu Asn Cys Leu Val Arg Pro Asn Ser Arg Phe Thr Thr
            315                 320                 325

gag atc acg ttt ttt atg ata agg ttt tag aagcggatgg acatcaatgg       1123
Glu Ile Thr Phe Phe Met Ile Arg Phe
        330                 335

attagctatg tgtcctacag tggtatccgt cgttatgttg ttattggaaa gcttacgaca   1183

caaccctctc caattgaaac taaagtatca ggtactattg tcatccaaaa taaaacggct   1243

caacaattcg atgttgtcat ttctaatgct tcaagcaatc aaggcataaa agaggtatta   1303

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caaggtgaag gcgtttataa ggtgaccgtt aaggtcagtg accataaaaa taatagcggt   1423

aactatcatg tccatcttta ttatcttttg gataatggtg aacaaagagg agtcggggca   1483

acaatgactg aggtggaagc accagagcct gtagaaacaa caggtatcat tagcattgcc   1543

aataagagca gccaaggatt tgatgttttg attactaatg cttccagcac tcaagacata   1603

aaagaggttt tagtgccggt ttggtcagaa caaaacggac aggacgatat tatttggtat   1663

caagcaacta aacaaggcga aggcgtttat aaggtggccg ttaaggtcag tgaccataaa   1723

aatgacagtg gtaactataa cattcacctt tattatcgcc ttgtaactgg tgaattaaag   1783

gttgttggag gaaagacaac gacagtagaa gcccctaata gagcaatctt ccagcacaag   1843

gaacttatgt tttcactaat aaagttgagg ttaaaaatga ggccagaaca tctagtccaa   1903

ctcagtttac ctttaataaa ggagaaagta tttactatga cagtatcttg aatgctgatg   1963

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ga                                                                  2025
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Met Lys Arg Ile Asp Ile Asn His Gln Ala Gln Arg Phe Ser Ile Arg
        35                  40                  45

Lys Tyr Ala Phe Gly Ala Ala Ser Val Leu Ile Gly Cys Val Phe Phe
    50                  55                  60

Leu Gly Thr Gln Asn Val Ser Ala Gln Glu Gln Gly Thr Gln Leu Pro
65                  70                  75                  80

Ala Ser Glu Asn Ala Val Val Asn Val Ala Glu Asn Ser Val Ala Ile
                85                  90                  95
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Ser Gln Ala Val Ala Asp Lys Ala Ala Thr Gln Thr Thr Leu Thr Glu
            100                 105                 110

Thr Pro Gln Val Glu Val Glu Glu Lys Glu Ser Lys Val Asn Ala Pro
        115                 120                 125

Ala Leu Asn Val Asp Asp Lys Gly Ala Lys Ser Lys Glu Asp Val Asn
    130                 135                 140

Pro Thr Ile Ser Lys Thr Ala Ser Glu Val Glu Ala Ser Ala Val Thr
145                 150                 155                 160

Ala Thr Asp Thr Lys Asn Ser Asn Pro Gln Val Asn Val Glu Thr Asp
                165                 170                 175

Ser Ser Glu Lys Asp Glu Asn Lys Met Val Thr Ser Ala Pro Ala Lys
            180                 185                 190

Glu Thr Glu Ala Glu Gln Asn Glu Lys Ala Val Arg Glu Asn Leu Met
        195                 200                 205

Gln Arg Gln Ala Lys Ala Val Ser Ile Pro Ser Gln Gly Asn Tyr Val
    210                 215                 220

Phe Gln Glu Thr Thr Pro Val Lys Asn Ala Ala Ser Met Ser Ser Pro
225                 230                 235                 240

Thr Gln Phe Asn Phe Asp Lys Gly Asp Lys Val Phe Tyr Asp Asn Val
                245                 250                 255

Leu Glu Ala Asp Gly His Gln Trp Ile Ser Tyr Val Ser Tyr Ser Gly
            260                 265                 270

Ile Arg Arg Tyr Ala Pro Ile Ala Val Thr Ile Glu Glu Leu Lys Gln
        275                 280                 285

Lys Glu Ile Val Gln Gln Asn Leu Pro Ala Gln Gly Thr Tyr His Phe
    290                 295                 300

Thr Lys Gln Gln Ser Leu Lys Met Lys Leu Asn Cys Leu Val Arg Pro
305                 310                 315                 320

Asn Ser Arg Phe Thr Thr Glu Ile Thr Phe Phe Met Ile Arg Phe
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1               5                   10                  15

aaa tat gca ttt gga gct gca tct gtt tta att ggc tgt gtc ttt ttt       96
Lys Tyr Ala Phe Gly Ala Ala Ser Val Leu Ile Gly Cys Val Phe Phe
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            20                  25                  30

cta ggt acc caa aat gtt tct gca caa gag cag gga act caa ttg cca      144
Leu Gly Thr Gln Asn Val Ser Ala Gln Glu Gln Gly Thr Gln Leu Pro
        35                  40                  45

gca agt gaa aac gca gtt gtg aac gtg gct gaa aat tca gtt gct atc      192
Ala Ser Glu Asn Ala Val Val Asn Val Ala Glu Asn Ser Val Ala Ile
    50                  55                  60

agc caa gca gtt tca gat aag gca gca gct caa aca act cta aca gaa      240
Ser Gln Ala Val Ser Asp Lys Ala Ala Ala Gln Thr Thr Leu Thr Glu
65                  70                  75                  80

aca ccc caa gtt gaa gtt gag gag aaa gaa aat aag gta aat gct cct      288
Thr Pro Gln Val Glu Val Glu Glu Lys Glu Asn Lys Val Asn Ala Pro
                85                  90                  95

gct tta aat gtc gat gac aaa ggt gca aaa tcc aaa gaa gat gtg aac      336
Ala Leu Asn Val Asp Asp Lys Gly Ala Lys Ser Lys Glu Asp Val Asn
            100                 105                 110

cct act gtt tca aag aca gca agt gaa gtg gaa gct tct gca gta act      384
Pro Thr Val Ser Lys Thr Ala Ser Glu Val Glu Ala Ser Ala Val Thr
        115                 120                 125

gct act gat act aaa aat tca aat cca caa gtc aat gtt gaa act gac      432
Ala Thr Asp Thr Lys Asn Ser Asn Pro Gln Val Asn Val Glu Thr Asp
    130                 135                 140

tca aat gaa aaa gac gaa aat aaa atg gtc acc tcg gct cca gct aag      480
Ser Asn Glu Lys Asp Glu Asn Lys Met Val Thr Ser Ala Pro Ala Lys
145                 150                 155                 160

gag act gag gca gaa caa aat gag aaa gcg gta gca gaa aat ctt atg      528
Glu Thr Glu Ala Glu Gln Asn Glu Lys Ala Val Ala Glu Asn Leu Met
                165                 170                 175

caa aga caa gct aag gct gtc tca att cca tcg caa ggc aat tat gtt      576
Gln Arg Gln Ala Lys Ala Val Ser Ile Pro Ser Gln Gly Asn Tyr Val
            180                 185                 190

ttc caa gaa aca act cct gta aaa aat gca gcc agt atg tcc agc cca      624
Phe Gln Glu Thr Thr Pro Val Lys Asn Ala Ala Ser Met Ser Ser Pro
        195                 200                 205

acc caa ttt aac ttt gat aaa gga gat aag gtt ttt tat gat aag gtt      672
Thr Gln Phe Asn Phe Asp Lys Gly Asp Lys Val Phe Tyr Asp Lys Val
    210                 215                 220

tta gaa gcg gat ggg cat caa tgg att agc tat gtg tct tac agt ggt      720
Leu Glu Ala Asp Gly His Gln Trp Ile Ser Tyr Val Ser Tyr Ser Gly
225                 230                 235                 240

att cgt cgc tat gct cct att gct gtg aca att gaa gaa ttg aag caa      768
Ile Arg Arg Tyr Ala Pro Ile Ala Val Thr Ile Glu Glu Leu Lys Gln
                245                 250                 255

aaa gaa att gtt cag caa aat tta ccg gca caa gga acc tat cac ttt      816
Lys Glu Ile Val Gln Gln Asn Leu Pro Ala Gln Gly Thr Tyr His Phe
            260                 265                 270

act aaa caa gca gac gtt aaa aat gaa gct aaa ctg tct agt ccg acc      864
Thr Lys Gln Ala Asp Val Lys Asn Glu Ala Lys Leu Ser Ser Pro Thr
        275                 280                 285

caa ttc tcg ttt tac aac gga gat cac gtt ttt tat gat aag gtt tta      912
Gln Phe Ser Phe Tyr Asn Gly Asp His Val Phe Tyr Asp Lys Val Leu
    290                 295                 300

gaa gcg gat ggg cat caa tgg att agc tat gtg tcc tac agt ggt atc      960
Glu Ala Asp Gly His Gln Trp Ile Ser Tyr Val Ser Tyr Ser Gly Ile
305                 310                 315                 320

cgt cgt tat gtt gtt att gga aag ctt acg aca caa ccc tct cca att     1008
Arg Arg Tyr Val Val Ile Gly Lys Leu Thr Thr Gln Pro Ser Pro Ile
                325                 330                 335

gaa act aaa gta tca ggt act att gcc atc caa aat aaa acg gct caa     1056
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Glu Thr Lys Val Ser Gly Thr Ile Ala Ile Gln Asn Lys Thr Ala Gln
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caa ttc gat gtt atc att tct aat gtt tcc agc act caa ggc ata aaa     1104
Gln Phe Asp Val Ile Ile Ser Asn Val Ser Ser Thr Gln Gly Ile Lys
        355                 360                 365

gag gta tta gtg ccg gtt tgg tca gag caa aac ggg cag gat gac att     1152
Glu Val Leu Val Pro Val Trp Ser Glu Gln Asn Gly Gln Asp Asp Ile
    370                 375                 380

gtc tgg tat caa gca act aaa caa ggc gaa ggc gtt tat aag gtg acc     1200
Val Trp Tyr Gln Ala Thr Lys Gln Gly Glu Gly Val Tyr Lys Val Thr
385                 390                 395                 400

gtt aag gtc agt gac cat aaa aat aac agt ggt aac tat gac att cac     1248
Val Lys Val Ser Asp His Lys Asn Asn Ser Gly Asn Tyr Asp Ile His
                405                 410                 415

ctt tat tat cgc ctt tca act ggt gaa tta aag gtt gtt gga gga aag     1296
Leu Tyr Tyr Arg Leu Ser Thr Gly Glu Leu Lys Val Val Gly Gly Lys
            420                 425                 430

aca act gag gtg gaa gca ccg aag cct gta gaa aca aca ggt atc att     1344
Thr Thr Glu Val Glu Ala Pro Lys Pro Val Glu Thr Thr Gly Ile Ile
        435                 440                 445

agc att gcc aat aag agc agc caa gga ttt gat gtt ttg att act aat     1392
Ser Ile Ala Asn Lys Ser Ser Gln Gly Phe Asp Val Leu Ile Thr Asn
    450                 455                 460

gct tcc agc act caa ggc ata aaa gag gta tta gtg cca gtt tgg tca     1440
Ala Ser Ser Thr Gln Gly Ile Lys Glu Val Leu Val Pro Val Trp Ser
465                 470                 475                 480

gaa caa aac gga cag gac gat att att tgg tat caa gca act aaa caa     1488
Glu Gln Asn Gly Gln Asp Asp Ile Ile Trp Tyr Gln Ala Thr Lys Gln
                485                 490                 495

ggc gaa ggc gtt tat aag gtg acc gtt aag gtc agt gac cat aaa aat     1536
Gly Glu Gly Val Tyr Lys Val Thr Val Lys Val Ser Asp His Lys Asn
            500                 505                 510

gac agt ggt aac tat gac att cac ctt tat tat cgc ctt tca act ggt     1584
Asp Ser Gly Asn Tyr Asp Ile His Leu Tyr Tyr Arg Leu Ser Thr Gly
        515                 520                 525

gaa tta aag gtt gtt gga gga aag aca acg aca gta gaa gcc cct aat     1632
Glu Leu Lys Val Val Gly Gly Lys Thr Thr Thr Val Glu Ala Pro Asn
    530                 535                 540

aga gtc aat ctt cca gca caa gga act tat gtt ttc act aat aaa gtt     1680
Arg Val Asn Leu Pro Ala Gln Gly Thr Tyr Val Phe Thr Asn Lys Val
545                 550                 555                 560

gag gtt aaa aat gag gcc aga aca tct agt cca act cag ttt acc ttt     1728
Glu Val Lys Asn Glu Ala Arg Thr Ser Ser Pro Thr Gln Phe Thr Phe
                565                 570                 575

aat aaa gga gaa agt att tac tat gac agt atc ttg aat gct gat gga     1776
Asn Lys Gly Glu Ser Ile Tyr Tyr Asp Ser Ile Leu Asn Ala Asp Gly
            580                 585                 590

cat caa tgg att agc tat cgt tcc tac agt ggt att cgt cgt tat att     1824
His Gln Trp Ile Ser Tyr Arg Ser Tyr Ser Gly Ile Arg Arg Tyr Ile
        595                 600                 605

atc att gat tga                                                    1836
Ile Ile Asp
    610
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            20                  25                  30

Leu Gly Thr Gln Asn Val Ser Ala Gln Glu Gln Gly Thr Gln Leu Pro
        35                  40                  45

Ala Ser Glu Asn Ala Val Val Asn Val Ala Glu Asn Ser Val Ala Ile
    50                  55                  60

Ser Gln Ala Val Ser Asp Lys Ala Ala Ala Gln Thr Thr Leu Thr Glu
65                  70                  75                  80

Thr Pro Gln Val Glu Val Glu Glu Lys Glu Asn Lys Val Asn Ala Pro
                85                  90                  95

Ala Leu Asn Val Asp Asp Lys Gly Ala Lys Ser Lys Glu Asp Val Asn
            100                 105                 110

Pro Thr Val Ser Lys Thr Ala Ser Glu Val Glu Ala Ser Ala Val Thr
        115                 120                 125

Ala Thr Asp Thr Lys Asn Ser Asn Pro Gln Val Asn Val Glu Thr Asp
    130                 135                 140

Ser Asn Glu Lys Asp Glu Asn Lys Met Val Thr Ser Ala Pro Ala Lys
145                 150                 155                 160

Glu Thr Glu Ala Glu Gln Asn Glu Lys Ala Val Ala Glu Asn Leu Met
                165                 170                 175

Gln Arg Gln Ala Lys Ala Val Ser Ile Pro Ser Gln Gly Asn Tyr Val
            180                 185                 190

Phe Gln Glu Thr Thr Pro Val Lys Asn Ala Ala Ser Met Ser Ser Pro
        195                 200                 205

Thr Gln Phe Asn Phe Asp Lys Gly Asp Lys Val Phe Tyr Asp Lys Val
    210                 215                 220

Leu Glu Ala Asp Gly His Gln Trp Ile Ser Tyr Val Ser Tyr Ser Gly
225                 230                 235                 240

Ile Arg Arg Tyr Ala Pro Ile Ala Val Thr Ile Glu Glu Leu Lys Gln
                245                 250                 255

Lys Glu Ile Val Gln Gln Asn Leu Pro Ala Gln Gly Thr Tyr His Phe
            260                 265                 270

Thr Lys Gln Ala Asp Val Lys Asn Glu Ala Lys Leu Ser Ser Pro Thr
        275                 280                 285

Gln Phe Ser Phe Tyr Asn Gly Asp His Val Phe Tyr Asp Lys Val Leu
    290                 295                 300

Glu Ala Asp Gly His Gln Trp Ile Ser Tyr Val Ser Tyr Ser Gly Ile
305                 310                 315                 320
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Arg Arg Tyr Val Val Ile Gly Lys Leu Thr Thr Gln Pro Ser Pro Ile
                325                 330                 335

Glu Thr Lys Val Ser Gly Thr Ile Ala Ile Gln Asn Lys Thr Ala Gln
            340                 345                 350

Gln Phe Asp Val Ile Ile Ser Asn Val Ser Ser Thr Gln Gly Ile Lys
        355                 360                 365

Glu Val Leu Val Pro Val Trp Ser Glu Gln Asn Gly Gln Asp Asp Ile
    370                 375                 380

Val Trp Tyr Gln Ala Thr Lys Gln Gly Glu Gly Val Tyr Lys Val Thr
385                 390                 395                 400

Val Lys Val Ser Asp His Lys Asn Asn Ser Gly Asn Tyr Asp Ile His
                405                 410                 415

Leu Tyr Tyr Arg Leu Ser Thr Gly Glu Leu Lys Val Val Gly Gly Lys
            420                 425                 430

Thr Thr Glu Val Glu Ala Pro Lys Pro Val Glu Thr Thr Gly Ile Ile
        435                 440                 445

Ser Ile Ala Asn Lys Ser Ser Gln Gly Phe Asp Val Leu Ile Thr Asn
    450                 455                 460

Ala Ser Ser Thr Gln Gly Ile Lys Glu Val Leu Val Pro Val Trp Ser
465                 470                 475                 480

Glu Gln Asn Gly Gln Asp Asp Ile Ile Trp Tyr Gln Ala Thr Lys Gln
                485                 490                 495

Gly Glu Gly Val Tyr Lys Val Thr Val Lys Val Ser Asp His Lys Asn
            500                 505                 510

Asp Ser Gly Asn Tyr Asp Ile His Leu Tyr Tyr Arg Leu Ser Thr Gly
        515                 520                 525

Glu Leu Lys Val Val Gly Gly Lys Thr Thr Thr Val Glu Ala Pro Asn
    530                 535                 540

Arg Val Asn Leu Pro Ala Gln Gly Thr Tyr Val Phe Thr Asn Lys Val
545                 550                 555                 560

Glu Val Lys Asn Glu Ala Arg Thr Ser Ser Pro Thr Gln Phe Thr Phe
                565                 570                 575

Asn Lys Gly Glu Ser Ile Tyr Tyr Asp Ser Ile Leu Asn Ala Asp Gly
            580                 585                 590

His Gln Trp Ile Ser Tyr Arg Ser Tyr Ser Gly Ile Arg Arg Tyr Ile
        595                 600                 605

Ile Ile Asp
    610
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